

Presentation by Nir Barzilai, MD

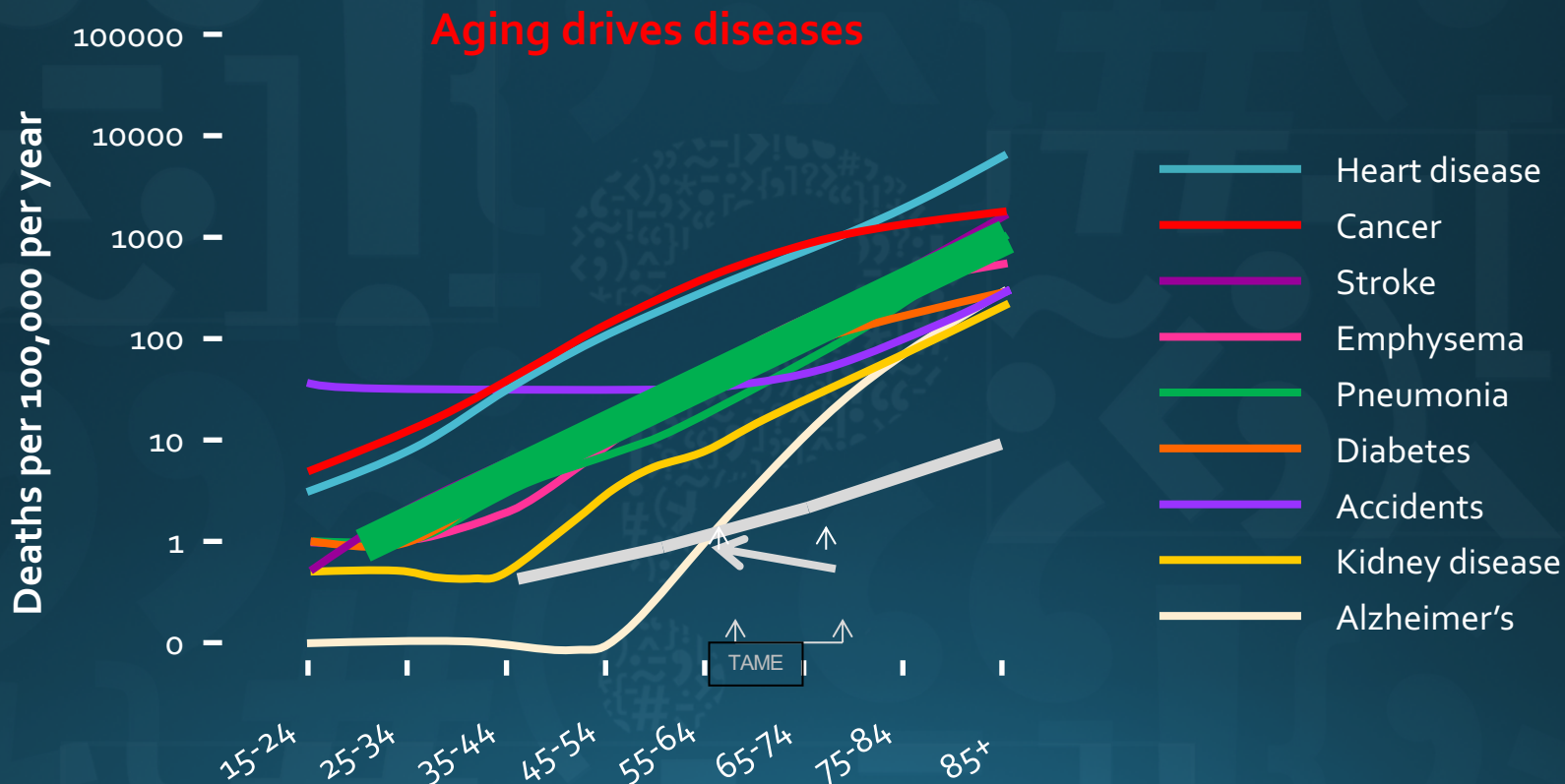
**WEBINAR: *COVID-19: Can the Science of Aging move us Forward?***

*March 24, 2020*



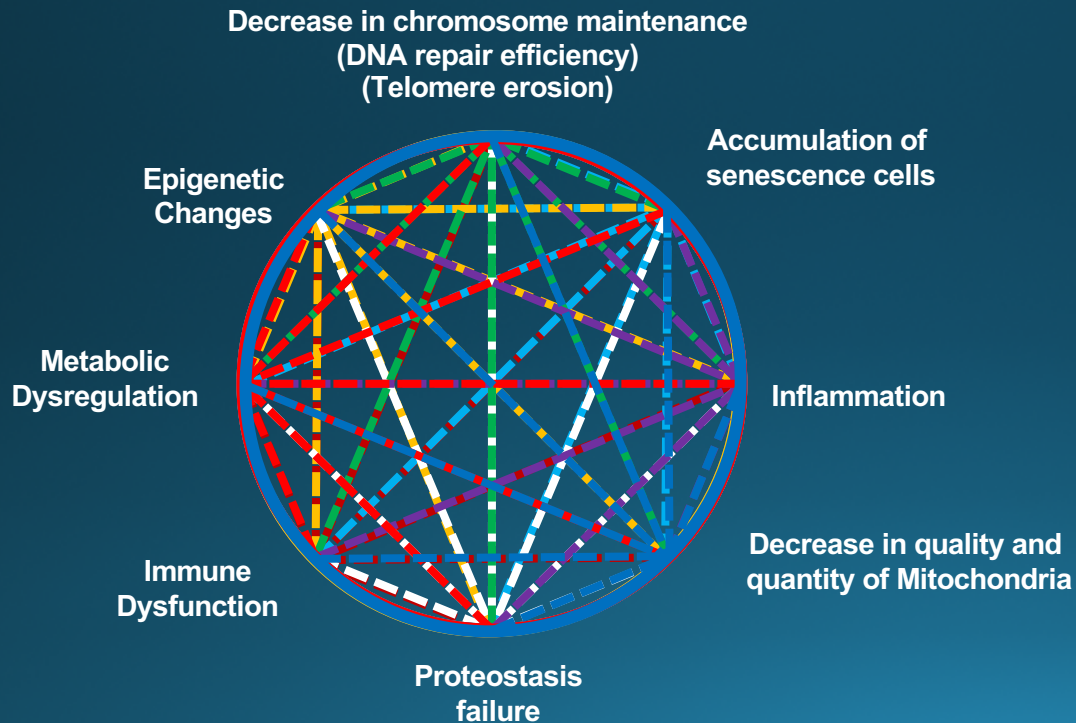
american federation  
for aging research

# Aging is the strongest risk factor for all age related diseases...



# Geroscience

## Hallmarks of Aging



## Targeting the Hallmarks

**Bitech:**

Restorbio

Lifebiosciences

CohBar

Juvenescence

Cambrian

Apollo

(more...)

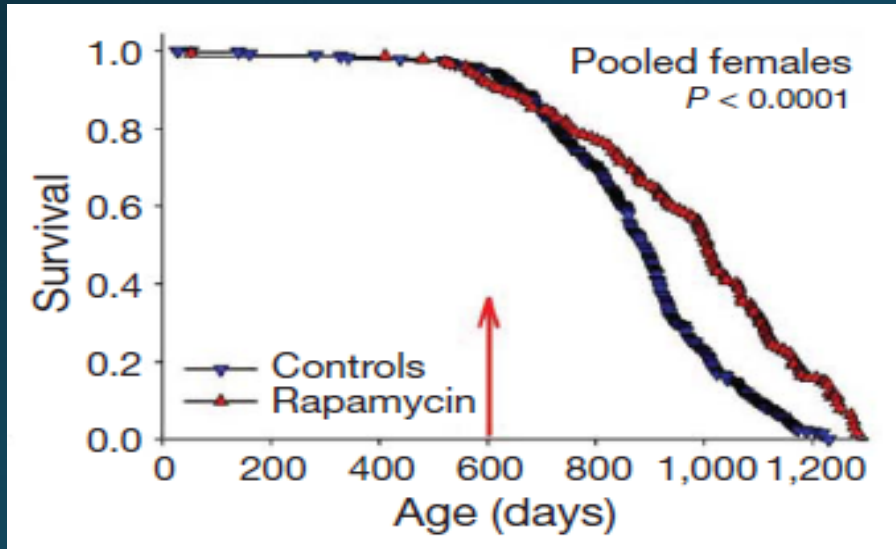
**Pharmaceuticals**

Regeneron

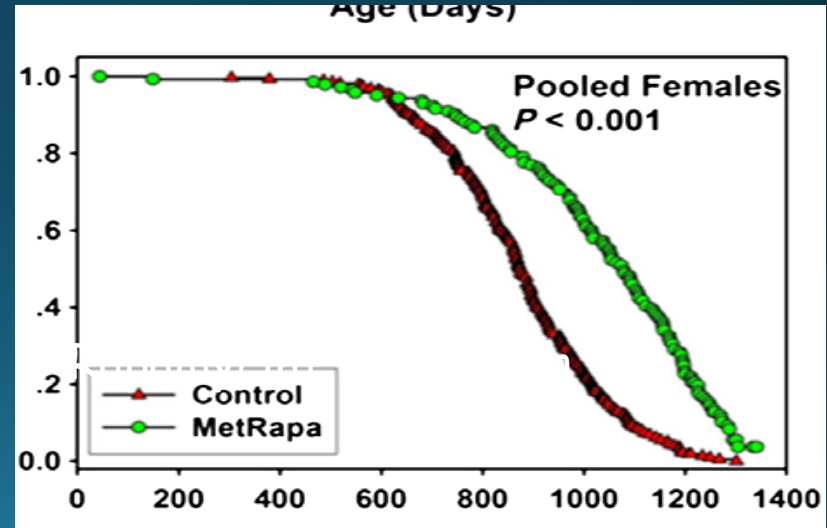
(Calico?)

- **Healthspan** & lifespan has been extended in numerous animal models.
- Relevant gero-protectors have been used in humans. (**Metformin, Rapamycin,....**)

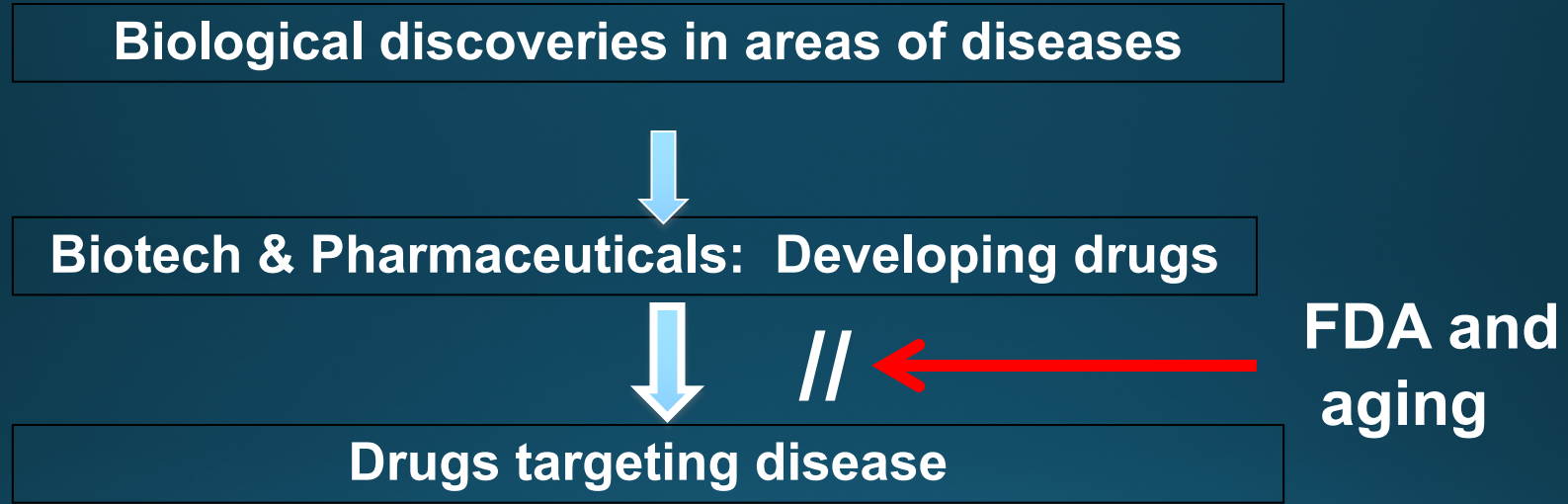
Rapamycin (mTOR inhibitor)



Rapamycin + metformin



# How to translate these achievements to humans?



If aging is not considered as a preventable conditions:

- 1) Healthcare insurers would not pay for their clients.
- 2) Pharmaceuticals will not develop other, better and combination of drugs.

# Targeting Aging with Metformin (TAME) (Launched by AFAR and friends)

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- **(Proof of concept)** To show that composite of age-related diseases can be prevented by metformin
- **(FDA regulation)** To obtain a new indication for the delay of age-related morbidities.



# **We are frustratingly behind!**

- **Elderly adults account for most of the mortality due to COVID-19**
- **The biology of aging drives diseases of aging, underlying the cause for this excess mortality**
- **Hallmarks of aging are targets for gero- therapeutics.**
- **Metformin and mTOR inhibitors maybe modulating response to viral infection in older adults**
- **They can target immune decline and inflammaging and increase whole body resiliency to severe illness.**
- **FDA, CDC, BARDA needs to rush into action!**
- **This is relevant to future pandemics, blinded to cause!**